



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,831	09/10/2003	Peter J. Black	990486D1	5958
23696 7590 12/28/2010 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121				
EXAMINER				
TSEGAYE, SABA				
ART UNIT		PAPER NUMBER		
2467				
NOTIFICATION DATE		DELIVERY MODE		
12/28/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com

Office Action Summary

Application No.

10/659,831

Applicant(s)

BLACK ET AL.

Examiner

SABA TSEGAYE

Art Unit

2467

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,6 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the amendment filed 10/12/10. Claims 1-3, 5, 6 and 12-17 are pending. Currently no claims are in condition for allowance.

Claim Rejections - 35 USC § 103

2. Claims 1-3, 5, 6 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDonough (US 6,452,959 B1) in view of Czaja et al. (US 6,459,689 B1).

Regarding claims 1, 12 and 15, McDonough discloses an apparatus, comprising: a first PN generator (see fig. 4; PN sequence generator; column 8, line 29-column 9, line 62) to generate a first PN sequence at a first offset (a first offset data associated with a first base station, which is IS-95 system; column 10, line 65-column 11, line 2); a first spreader to receive and spread a first pilot data with the first PN sequence (according to IS-95 standards, the short code I-sequence is associated with polynomial $P_{I(x)} = X^{15} + X^{13} + X^9 + X^8 + X^7 + X^5 + 1$; and the Q-sequence is associated with the polynomial $P_{Q(x)} = X^{15} + x^{12} + x^{11} + x^{10} + x^6 + x^5 + x^4 + x^3 + 1$...; column 12, line 64-column 13, line 13); a second PN generator to generate a second PN sequence at a second offset (a second offset data associated with a second base station, which is IS-2000 system; column 10, line 65-column 11, line 2), wherein the first PN sequence is generated from equation different from equations used to generate the second PN sequence (column 12, line 62-column 13, line 13); and a second spreader to receive and spread a second pilot data with the second PN sequence (...the PN sequence are defined to be truncates sequences of a maximal length linear feedback shift register sequence based upon the $P(x) = X^{20} + X^9 + X^{530}X^3 + 1$...; column 13, lines 14-26).

However, McDonough does not explicitly disclose first and second frequencies.

Czaja teaches a CMA cellular system that permit Mobile Assisted Handoff between base stations that use different carrier frequencies by performing periodic searches of the different carrier frequency base station pilots (Abstract Summary).

It would have been obvious to one ordinary skill in the art at the time the invention was made to use different frequencies, such as that suggested by Czaja, in the communication system (for example Fig. 10) of McDonough in order provide hard handoff between base stations where soft handoff is impossible.

Regarding claims 2 and 3, McDonough discloses wherein the first frequency uses a different CDMA format than the second frequency (IS-95 standard and IS-2000 standard; column 13, lines 7-20).

Regarding claims 5, 6, 13, 14, 16 and 17, McDonough discloses that according to IS-95 standards, the short code I-sequence is associated with polynomial $P_I(x) = X^{15} + X^{13} + X^9 + X^8 + X^7 + X^5 + 1$; and the Q-sequence is associated with the polynomial $P_Q(x) = X^{15} + x^{12} + x^{11} + x^{10} + x^6 + x^5 + x^4 + x^3 + 1$ (column 12, line 64-column 13, line 13).

Response to Arguments

3. Applicant's arguments filed 10/12/10 have been fully considered but they are not persuasive. Applicant argues that McDonough merely teaches in-phase (I) and quadrature (Q) sequences that would be used by a single PN generator for generating a single PN sequence compliant with standard (e.g., IS-95) for a spreader. McDonough does not teach or suggest a second pair of I and Q sequences, different from the disclosed I and Q polynomial sequences in

lines 1-5 of col.6 that would be needed to generate a second, distinct PN sequence for a second spreader. Examiner respectfully disagrees. McDonough discloses that a memory stores those data sequences required for operation in accordance **with both IS-95 and IS-2000 standards**. The mobile station selects the appropriate data sequence IS-95 or IS-2000 in response to control data... (column 13, lines 39-44).

Applicant, further argues that McDonough simply does not teach, contemplate, or suggest the use of two distinct equations for respective first and second PN generators as claimed. Examiner respectfully disagrees. The IS-95 standard has distinct equations from IS-2000 standard (column 13, line 1-21).

Applicant, also, argues that Czaja does not teach or suggest a first PN sequence... generated from equations different from equations used to generate a second PN sequence. It is respectfully submitted that the rejection is based on the combined teaching of McDonough reference and the Czaja reference, and that the McDonough reference, as pointed out above does teach this feature.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SABA TSEGAYE whose telephone number is (571)272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pankaj Kumar can be reached on (571) 272-3011. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Saba Tsegaye
Examiner
Art Unit 2467

/Saba Tsegaye/
Examiner, Art Unit 2467
/Pankaj Kumar/
Supervisory Patent Examiner, Art Unit 2467